

In the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application. Please cancel claims 1-60 without prejudice to or disclaimer of the subject matter therein. Please add new claims 61-78. No new matter has been added.

Claims 1-60 (Canceled)

61. (New) A rotary table for use with a three-dimensional digitizing system, said three-dimensional digitizing system measuring three-dimensional geometry of an object resting on said rotary table and providing data describing said three-dimensional geometry to a host computer system, the rotary table comprising:

- a support base;

- a turntable coupled to said support base and operative to rotate about an axis positioned perpendicularly to a surface of said turntable, said turntable receiving on said turntable surface said object to be measured, said turntable and said object rotating about said axis during or between said measuring of said three-dimensional geometry of said object to allow said measuring of said three-dimensional geometry; and

- a sensor coupled to said support base and operative to measure an angular rotation of said turntable, wherein said sensor provides sensor data indicative of said angular rotation to said host computer system, said host computer system including said angular rotation of said turntable in a determination of said three-dimensional geometry of said object on said rotary table.

62. (New) The rotary table as recited in claim 61 wherein said rotary table further includes interface electronics for providing said angular rotation to said host computer system.

63. (New) The rotary table as recited in claim 61 wherein a probe of a probe apparatus is used to physically trace a surface of said object to obtain three-dimensional coordinates describing said three-dimensional geometry.

64. (New) The rotary table as recited in claim 63 wherein said turntable includes a receptacle positioned near a periphery of said turntable for receiving said probe in an initialization procedure for locating said turntable relative to said probe apparatus.

65. (New) The rotary table as recited in claim 63 wherein said turntable includes a receptacle positioned near the center of said turntable for receiving said probe in an initialization procedure for locating said turntable relative to said probe apparatus.

66. (New) The rotary table as recited in claim 63 wherein said support base is coupled to a base of said probe apparatus such that a position and orientation of said rotary table is fixed relative to said probe apparatus.

67. (New) The rotary table as recited in claim 63 wherein said probe of said probe apparatus is a stylus having a tip for contacting said object.

68. (New) The rotary table as recited in claim 64 wherein said receptacle receives said probe such that when said turntable is rotated in said initialization procedure, said probe rotates with said turntable and a plurality of positions and orientations of said probe are sampled during said rotation to locate said rotary table with respect to said probe apparatus.

69. (New) The rotary table as recited in claim 63 wherein said turntable includes a first receptacle positioned near a periphery of said turntable and a second receptacle positioned near a center of said turntable, said receptacles for receiving said probe in an initialization procedure for locating said turntable relative to said probe apparatus.

70. (New) The rotary table as recited in claim 63 wherein said turntable is manually rotated by a user to allow said tracing of said surface of said object by said probe.

71. (New) The rotary table as recited in claim 61 wherein said host computer system determines a three-dimensional model of said object from said data describing said three-dimensional geometry of said object.

72. (New) A digitizing system for determining the three-dimensional geometry of an object and providing information describing said three-dimensional geometry to a host computer system, the digitizing system comprising:

- (a) an apparatus including at least one sensor detecting said information describing said three-dimensional geometry and providing said information to said host computer system; and

- (b) a rotary table including:

- (i) a base;

- (ii) a turntable coupled to said base and rotatable about an axis positioned perpendicularly to a surface of said turntable, said turntable receiving on said surface said object, wherein said turntable and said object rotate about said axis during or between said detecting of said information describing said three-dimensional geometry of said object; and

- (iii) a turntable sensor coupled to said base, said turntable sensor measuring a rotation of said turntable about said axis, wherein said turntable sensor outputs turntable data indicative of said rotation to said host computer system, said turntable data usable in a determination of said three-dimensional geometry.

73. (New) The digitizing system as recited in claim 72 wherein said turntable data is used to locate said object on said rotary table with respect to said apparatus after said turntable is rotated.

74. (New) The digitizing system as recited in claim 73 wherein said apparatus is a probe apparatus and includes an interface microprocessor separate from said host computer system and coupled to said probe apparatus, said turntable sensor, and said host computer system, said interface microprocessor being adapted to receive said information and said

turntable data and to provide said information and said turntable data to said host computer system.

75. (New) The digitizing system as recited in claim 73 wherein said apparatus is a probe apparatus and wherein a probe of said probe apparatus is used to trace a surface of said object to allow said at least one sensor to detect said information describing said three-dimensional geometry of said object.

76. (New) The digitizing system as recited in claim 75 wherein said probe is a stylus having a tip for contacting said object.

77. (New) The digitizing system as recited in claim 75 wherein said probe apparatus includes:

- a first joint member coupled to said probe;
- a first linkage rotatably coupled to said first joint member;
- a second joint member rigidly coupled to said first linkage;
- a second linkage rigidly coupled to said second joint member; and
- a third joint member rigidly coupled to said second linkage and to a base.

78. (New) The digitizing system as recited in claim 75 wherein said turntable includes a receptacle positioned near a periphery of said turntable for receiving said probe in an initialization procedure for locating said turntable relative to said probe apparatus.